Chapter 3: Initial Alignments Evaluation

The purpose of this chapter is to document the results of a preliminary, general evaluation of five potential alignments for routing *High-Capacity Transit (HCT)* through the Inner Katy area. Through this evaluation, two of the alignment alternatives were then selected for purposes of studying transit-oriented development potential in the area.

High-Capacity Transit *involves faster and more frequent service, longer service hours each day, and two-directional service in the same corridor versus traditional one-way service types.*

Chapter Highlights

This chapter outlines the five alignment options considered (displayed in **Figure 3.1: Alternative Alignments**), the criteria used to evaluate these alternatives, and the specific considerations – positive and negative – for each potential alignment.

- As a result of this evaluation, Alignments B and C were selected as the two to be used for the remainder of the Inner Katy study. This decision was made by a special committee comprised of staff and consultants of the City of Houston and METRO involved in the study.
- Alignment A, one of the two original alignments at the start of the study, was determined to be the least favorable option.
- The results of the general alignment evaluation are summarized in **Table 3.1**. The evaluation categories are explained within the chapter.

Table 3.1:
Summary of Evaluation Results for High-Capacity Transit Alignment Options

Evaluation Criterion	Alignment A	Alignment B	Alignment C	Alignment D	Alignment E
HCT Constructability	¢	~	í	í	í
HCT Operations Viability	¢	í	~	¢	¢
Development-Redevelopment Potential	¢	~	~	í	~
Neighborhood & Business Compatibility	¢	í	¢	¢	¢
OVERALL	¢	~	~	¢	¢

~ Favorable
í Neutral (or positive and negative factors considered offsetting)
¢ Unfavorable

Alignment B follows Washington Avenue, Yale Street and the 6th-7th Street corridor to the Northwest Transit Center

Alignment C continues along the length of Washington Avenue before crossing north of the Katy Freeway and continuing west toward the Northwest Transit Center

- All five alignments considered in this evaluation had definite positive and negative aspects. In the end, Alignments B and C were considered the most appropriate alternatives for purposes of conducting a meaningful study of transit-oriented development potential in the Inner Katy area.
- It should be noted that other HCT alignments for the Inner Katy area, including potential alignments tied to the Katy Freeway corridor, as well as other ways of entering downtown, will be considered through ongoing and more detailed transit feasibility studies to be conducted by METRO and/or others.

Purpose of Evaluation

After completing the Existing Conditions assessment, the consultant team conducted a general evaluation of five alternative alignments for potential High-Capacity Transit (HCT) in the study area, including the original two alignments (A and B) and three additional alignment possibilities (C, D and E). As a result of this analysis, alternatives not considered viable due to extreme flaws such as severe engineering constraints, major community impacts, or potentially prohibitive costs were set aside for purposes of this study. However, these and various other alignment possibilities, and potential combinations of such alignments, will be

evaluated in greater detail through ongoing and more detailed transit feasibility studies to be conducted by METRO and/or others

Five Alternative Alignments

The five alternatives evaluated (see **Figure 3.1: Alternative Alignments**) were:

- **Alignment "A"** – This corridor follows the Union Pacific Railroad right-of-way, past the Northwest Transit Center (NWTC), across the study area. [One of the two original study alignments]
- **Alignment "B"** – This corridor follows the Union Pacific Railroad right-of-way, past the NWTC, from the western boundary of the study area to Yale Street, at which point it turns south along a railroad spur to Washington Street. It follows Washington Street to its intersection with Houston Street, then turns south and follows Capitol Street to the Downtown Transit Center. [One of the two original study alignments]
- **Alignment "C"** – This alternative to the two original alignments follows the Washington/Westcott corridor, tying into Washington Street and following the same path as Alignment "B" into Downtown.
- **Alignment "D"** – As another alternative corridor, this alignment turns south from the Union Pacific Railroad corridor along T.C. Jester to Washington, then follows the same path as Alignment "B" into Downtown.
- **Alignment "E"** – Similar to "D", this alternative corridor turns south from the Union Pacific Railroad right-of-way along the Shepherd/Durham couplet, then follows the same path as Alignment "B" into Downtown.

Evaluation Process

Review, discussion and relative weighting of the evaluation factors for each of the five alignment options was accomplished with input from the City of Houston Planning & Development Department, METRO, and City Council District H staff, as well as members of the consultant team. Those involved in the evaluation process considered a wide range of issues that could be classified as "pros" and "cons" of each alignment. In particular, critical factors were identified that would clearly make a potential alignment more or less viable, especially relative to the other alignment options.

The four categories of evaluation criteria used, as displayed in Table 3.1, involve the following factors:

- **HCT Constructability** – This criterion involves factors that would make a particular alignment more practical for HCT design and construction, such as available and adequate right of way, as well as factors that would make HCT implementation more difficult, such as environmental constraints or other physical obstacles.
- **HCT Operations Viability** – This criterion involves factors that would either support safe and efficient transit operations, such as the likelihood of

substantial ridership in a service area, or would detract from effective operations, such as alignments on which higher speeds could not be sustained or where conflicts with existing automobile traffic would occur.

- **Development/Redevelopment Potential** – This criterion involves factors that would point to a particular transit alignment as more or less likely to spur land development activities, such as providing better access to significant destinations, or, on the negative side, traversing areas with limited reinvestment potential due to basic market disadvantages.
- **Neighborhood & Business Compatibility** – This criterion involves factors that would imply either significant or minimal disruption of residential and/or commercial areas from an HCT line, including substantial impacts to viability of small businesses during the construction phase (or even longer term), or avoiding valued "green" spaces or historical areas through the alignment selection.

After completing this evaluation exercise, the participants also agreed that the highest-rated alignments, B and C, would provide clear alternatives for gauging transit-oriented development potential in two important subsegments of the Inner Katy study area.

Alignment "A" Considerations

The following considerations were noted when assigning ratings under each of the evaluation categories for Alignment A.

HCT Constructability (Alignment A)

Considerations in Assigning an Unfavorable Rating (¢)

- Existing right of way along Alignment A is already owned entirely by the Texas Department of Transportation (TxDOT) and is of adequate width for much of the alignment, although it would be somewhat constrained where the pending Rails to Trails project for the old Missouri, Kansas & Texas (MKT) line will be constructed in this same corridor (eastward toward downtown from a trailhead under the Shepherd/Durham overpasses at West 7th Street). It is the understanding of the Inner Katy study team that the bikeway will occupy 20 feet along the north side of the available 50-foot right of way, leaving 30 feet for potential HCT use, which is workable but tight. Parallel transit and bikeway routes can co-exist and complement one another in a situation like this.
- Significant right-of-way constraints are likely on the northwest-southeast segment between Shepherd and Studewood where Alignment A traverses established residential neighborhood blocks in the Heights.
- Outside the downtown area, Alignment A crosses White Oak Bayou in two locations, which could require bridge construction or reconstruction that would involve potential floodplain and environmental issues. In general, Alignment A would likely be impacted by flooding concerns associated with White Oak Bayou.

HCT Operations Viability (Alignment A)

Considerations in Assigning an Unfavorable Rating (¢)

- Alignment A leads to an eastern terminus on the north side of downtown, to the north of White Oak and Buffalo bayous. While this supports the concept of a potential future *intermodal* transit center in this area, METRO officials have expressed viability concerns if downtown commuters must navigate a transfer process as opposed to a direct transit link into the Central Business District (CBD), where shorter trolley or walking (surface or tunnel) connections to individual destinations would be more convenient and less time-consuming. Also, from a transit operations standpoint, bringing downtown commuters into a northside transit center for transfers into the CBD could overwhelm the north-south UH/Downtown-to-Reliant Park line. A more direct east-west alignment into downtown would allow for a better interface from a transit system perspective.
- Because a significant segment of Alignment A traverses a largely residential area, HCT operations would likely require slower speeds for safety and neighborhood compatibility reasons.

***Intermodal** refers to various methods, or "modes" of transportation (automobile, bus, rail, air, water, bicycle, walking) and how these can be linked, such as at a central transit facility where individuals can park their cars or walk to catch a bus, switch from a bus to a train, or make some other transition between transportation options.*

Development/Redevelopment Potential (Alignment A)

Considerations in Assigning an Unfavorable Rating (¢)

- Older industrial areas and sites that are along Alignment A offer redevelopment potential (e.g., Eureka Rail Yard area, 6th-7th Street vicinity).
- Alignment A offers limited transit-oriented development potential east of Yale given the extent of residential development. Hardly any of the alignment follows an existing commercial corridor. Given the predominantly single-family nature of these residential areas, HCT along Alignment A could be hindered by inadequate population density to generate sufficient ridership. Redevelopment opportunities, particularly in the eastern portion of the study area nearer to downtown, might also be limited by physical constraints, deed restrictions and/or neighborhood opposition to *land use intensification.*

***Land use intensification** involves the transition of an area to more intensive or concentrated activities, such as a shift from residential to office and retail uses – or to higher-density apartments or townhomes – with associated traffic and parking. This transition could also involve larger structures (in terms of building height and bulk) or a more dense development pattern (in terms of population and/or the size and closeness of buildings).*

Neighborhood & Business Compatibility (Alignment A)

Considerations in Assigning an Unfavorable Rating (¢)

- Alignment A carries a high likelihood of neighborhood disruption in established residential areas (e.g, cutting through the middle of developed blocks on the Heights portion, coming very close – within feet – to some homes and fence lines, potential noise/vibration/aesthetic impacts).
- Alignment A traverses a recognized historic area (Houston Heights), as displayed in Figure 2.12, Special Districts in Chapter 2, Existing Conditions.
- Area residents and businesses, particularly in the Heights area, have voiced concerns regarding Alignment A.

Alignment "B" Considerations

The following considerations were noted when assigning ratings under each of the evaluation categories for Alignment B.

HCT Constructability (Alignment B)

Considerations in Assigning a Favorable Rating (˜)

- Existing right of way along the 7th Street portion of Alignment B is already owned entirely by the Texas Department of Transportation (TxDOT) as noted previously for Alignment A.
- The north-south Yale segment of Alignment B also has the advantage of following past rail right of way, although some is apparently in private ownership and used for business access, parking and storage. HCT along this alignment could likely achieve higher speeds compared to alignments within existing street rights of way and nearer to vehicular traffic.
- With the pending opening and improvement of 6th Street to the west of Yale, Alignment B offers the possibility of diverting a portion of the HCT segment in this area from 7th to 6th Street to reduce disruption of established local businesses along 7th Street.
- Similarly, the portion of Alignment B along Washington Avenue could possibly be shifted north several blocks to Allen Street to take advantage of greater space along the existing rail right of way and to avoid disruption of established local businesses along Washington (this consideration applies to Alignments C, D and E as well).
- Outside the downtown area, Alignment B crosses White Oak Bayou in two locations, which could require bridge construction or reconstruction that would involve potential floodplain and environmental issues. In general, Alignment B would likely be impacted by flooding concerns associated with White Oak Bayou. Flooding around Buffalo Bayou where this alignment (and Alignments C, D and E) would enter downtown is also noted.
- The intersection of Houston and Lubbock streets near downtown could pose an HCT design challenge given the limited space, existing street alignments and extent of vehicular traffic (this consideration applies to Alignments C, D and E as well).

Existing right of way north of the Katy Freeway offers opportunities for both transit development and expansion of the area bikeway network

HCT Operations Viability (Alignment B)

Considerations in Assigning a Neutral Rating (í)

- Alignment B involves two near 90-degree turns (at Washington and Yale and Yale and 6th/7th Streets) that could pose operational difficulties, including reduced speed. Existing development around these locations would offer little room to achieve a larger *turning radius.*

Development/Redevelopment Potential (Alignment B)

Considerations in Assigning a Favorable Rating (˜)

- Older industrial areas and sites along Alignment B offer redevelopment potential (e.g., Eureka Rail Yard area, 6th-7th Street vicinity). Of the five alignment alternatives, Alignment B also passes the most large parcels in the study area. Alignment B also provides the most direct access to the 6th-7th Street area, which is anticipated for redevelopment, giving Alignment B an advantage over Alignments D and E, which tie into the 7th Street corridor farther to the west.

Neighborhood & Business Compatibility (Alignment B)

Considerations in Assigning a Neutral Rating (í)

- Compared to Alignment A, Alignment B avoids the Houston Heights historic area, as displayed in Figure 2.12, Special Districts in Chapter 2, Existing Conditions. However, Alignment B (like C, D and E) would bring an HCT line very near to the Old Sixth Ward Historical District near downtown, which could have positive and negative implications in terms of development and neighborhood impacts.
- Area residents and businesses have voiced concerns regarding Alignment B, particularly along the Washington Avenue and 7th Street segments where small businesses are located.

Alignment "C" Considerations

The following considerations were noted when assigning ratings under each of the evaluation categories for Alignment C.

HCT Constructability (Alignment C)

Considerations in Assigning a Neutral Rating (í)

- Portions of Washington Avenue, where the existing street right of way narrows to 70 feet and zero- or limited-setback buildings abut the roadway, could be constrained to accommodate an HCT line (for which METRO typically prefers 50 feet of right of way for two-way operations) as well as adequate automobile travel and turning lanes, on-street bikeway lanes and sidewalks. The potential loss of on-street parking could also be a concern in some locations.

Turning radius *relates to how sharp a turn is dictated by the design of a roadway, intersection, driveway, or, in this case, a transit line. A larger turning radius means a more "sweeping" curve that can generally be navigated safely at higher speeds compared to a sharper turn (with a smaller radius) that would require the vehicle to slow down when approaching and then making the turn.*

- Some portions of Alignment C along Washington Avenue could possibly be shifted north several blocks to Allen Street to take advantage of greater space along the existing rail right of way and to avoid disruption of established local businesses along Washington (this consideration applies to Alignments B, D and E as well).
- The interchange of Washington Avenue-Hempstead Highway-Old Katy Road to the north of IH-10 could pose design challenges to tie into the 7th Street corridor depending on potential HCT routing through this busy area of existing grade separations and ramp alignments. Old Katy Road is a potential alternate route to the Northwest Transit Center.
- Outside the downtown area, Alignment C – like Alignment D – avoids any bayou crossings as compared to alignments A, B and E. However, flooding around Buffalo Bayou where this alignment (and Alignments B, D and E) would enter downtown is noted.
- The intersection of Houston and Lubbock streets near downtown could pose an HCT design challenge given the limited space, existing street alignments and extent of vehicular traffic (this consideration applies to Alignments B, D and E as well).

HCT Operations Viability (Alignment C)

Considerations in Assigning a Favorable Rating (˜)

- Areas near the Washington Avenue corridor have experienced significant multi-family and townhouse development in recent years. This increased population and greater residential density bolsters HCT ridership potential.
- With the re-emergence of Washington Avenue as an entertainment district, and with the potential to enhance access to Memorial Park as an urban amenity, Alignment C offers interesting potential for off-peak and weekend HCT ridership.
- Alignment C is the only alignment alternative that remains mostly south of IH-10 through the Inner Katy area and would provide no direct HCT service in or near the Heights and other neighborhoods north of the Katy Freeway.
- One-way traffic on Washington Avenue north of the intersection at Westcott could pose safety concerns for two-way HCT operation.
- HCT operating speeds would be low along narrower portions of Washington Avenue.
- Even without the Washington on Westcott (WOW) Roundabout Initiative, this important intersection, with major roadways and side streets converging from various directions, would pose engineering and design challenges for incorporating HCT while ensuring safe and efficient operations. Eventual routing of HCT through the new roundabout area would likely involve functional and operational conflicts (e.g., limited space, tight turning movements, reduced speed). Given the cost and/or potential

neighborhood opposition to possible design solutions (e.g., below-grade routing of HCT through an open cut trench, or overhead routing via an elevated grade separation), it would probably be necessary to acquire adjacent property to separate HCT from vehicular traffic in the roundabout vicinity or completely bypass the roundabout using other routing options in this immediate area.

Development/Redevelopment Potential (Alignment C)

Considerations in Assigning a Favorable Rating (˜)

- Washington Avenue is the historical transit and commercial corridor to the west of downtown and is seen by some as a logical HCT alignment alternative given redevelopment trends and potential. Alignment C is also the only alignment alternative that follows a single commercial corridor for much of its length across the Inner Katy area.
- Among the five alignment alternatives, only Alignment C would provide no access to the older industrial areas and sites north of IH-10 that offer redevelopment potential (e.g., Eureka Rail Yard area, 6th-7th Street vicinity), except for the industrial properties just inside Loop 610 in the westernmost portion of the study area.
- Shallow parcels along portions of Washington Avenue and the difficulty of *land assembly* in the area is an important obstacle to more significant redevelopment activity.
- As noted above under HCT Operations Viability, Washington Avenue is attracting visitors to the Inner Katy area as an emerging entertainment district. An HCT alignment along Washington Avenue would also enhance access to Memorial Park as an urban amenity, both for area residents and other City residents and visitors.

Land assembly *is the process through which a single owner acquires adjacent properties to "assemble" a larger overall site for a more significant development project. Land assembly can be time-consuming and costly depending on the willingness of current owners to sell, the difficulty of such transactions (including dealing with "absentee" property owners who live out of town or their agents), and necessary property research to document title history, unpaid back taxes, environmental mitigation needs, or other potential obstacles.*

Washington Avenue is wide enough to accommodate high-capacity transit, but operating speeds might be limited compared to other alignment options

Neighborhood & Business Compatibility (Alignment C)

Considerations in Assigning an Unfavorable Rating (¢)

- Alignment C has the potential to cause greater disruption of smaller, single-location businesses compared to some of the other alignment alternatives given the nature of existing development along the Washington Avenue corridor. This includes basic survival of businesses during the construction phase, plus long term business viability if access and/or parking are substantially affected.

- Alignment C (like B, D and E) would bring an HCT line very near to the Old Sixth Ward Historical District near downtown, which could have positive and negative implications in terms of development and neighborhood impacts.
- Area residents and businesses have voiced concerns regarding Alignment C (particularly along the Washington Avenue segment). The pending design and short-term construction of a traffic roundabout at the Washington-Westcott intersection, and associated "gateway" and aesthetic enhancements, is a particular concern that has been the subject of special meetings and discussions regarding potential HCT disruptions and design coordination. Concerns have also been expressed about neighborhoods in the Washington Avenue vicinity already being adversely affected by a denser development pattern, which a transit-oriented development scenario could intensify.

Alignment "D" Considerations

The following considerations were noted when assigning ratings under each of the evaluation categories for Alignment D.

HCT Constructability (Alignment D)

Considerations in Assigning a Neutral Rating (**í**)

- Existing right of way along the 7th Street portion of Alignment D is already owned entirely by the Texas Department of Transportation (TxDOT) as noted previously for Alignments A and B. However, except for Alignment C, Alignment D would use the least amount of the 7th Street corridor compared to Alignments A, B and E.
- The north-south segment of Alignment D on T.C. Jester offers a wide median where HCT could potentially be placed, although this would involve some loss of existing green space in the corridor.
- Some portions of Alignment D along Washington Avenue could possibly be shifted north several blocks to Allen Street to take advantage of greater space along the existing rail right of way and to avoid disruption of established local businesses along Washington (this consideration applies to Alignments B, C and E as well).
- Outside the downtown area, Alignment D – like Alignment C – avoids any bayou crossings as compared to alignments A, B and E. However, flooding around Buffalo Bayou where this alignment (and Alignments B, C, and E) would enter downtown is noted.
- The intersection of Houston and Lubbock streets near downtown could pose an HCT design challenge given the limited space, existing street alignments and extent of vehicular traffic (this consideration applies to Alignments B, C and E as well).

HCT Operations Viability (Alignment D)

Considerations in Assigning an Unfavorable Rating (¢)

- Safe and efficient transit operations along Alignment D (as with Alignment E) would require a potentially costly and disruptive grade separation at the existing at-grade rail crossing on T.C. Jester between Washington Avenue and IH-10. This existing freight rail line is heavily used and causes frequent traffic stoppages on T.C. Jester (as on Shepherd / Durham and Heights Boulevard).
- An existing high overpass on T.C. Jester carries the roadway over the rail lines north of IH-10. Alignment D would presumably be tied into this same overpass to link the north-south portion of the HCT line along T.C. Jester to the east-west segment along the 7th Street corridor. This would require an extended ramp approach from the west to achieve the elevation of the existing high bridge while not sacrificing HCT operational speed on a steep slope. This consideration also raises constructability concerns regarding the need for, and the potential cost and impacts of, the extended approach.
- Alignment D involves two near 90-degree turns (at Washington and T.C. Jester and T.C. Jester and 7th) that could pose operational difficulties, including reduced speed. Existing development around these locations might offer little room to achieve a larger turning radius.
- As noted under HCT Constructability, the wide median on T.C. Jester would also be a segment where higher operating speeds could be achieved compared to the narrower space situations along some portions of the other alignment alternatives.

Development/Redevelopment Potential (Alignment D)

Considerations in Assigning a Neutral Rating (í)

- Alignment D includes the longest portion of Washington Avenue aside from Alignment C.
- Older industrial areas and sites that are along Alignment D offer redevelopment potential (e.g., Eureka Rail Yard area). However, Alignment D would not provide access to the 6th-7th Street area or to other large parcels along Yale as does Alignment B.

Neighborhood & Business Compatibility (Alignment D)

Considerations in Assigning an Unfavorable Rating (¢)

- The need for a roadway-rail grade separation along the T.C. Jester portion of Alignment D, as noted under HCT Operations Viability, would impact adjacent private properties and likely spark significant neighborhood opposition. In addition, a grade separation over a rail line must be even higher than a roadway separation to provide adequate clearance for rail cars,

increasing the physical and visual impact of an elevated grade separation at this location.

- Of all the alignment alternatives, Alignment E passes the closest to an elementary school campus (Stevenson Elementary School, at T.C. Jester and Cornish, just north of IH-10), and a fire station is also nearby on the east side of T.C. Jester. In addition, by passing through this portion of Cottage Grove along T.C. Jester, Alignment E comes the closest to numerous residential properties of any alignment other than Alignment A through the Heights, although the homes along this segment of T.C. Jester are oriented toward the side streets and do not front directly on T.C. Jester.
- Alignment D (like B, C and E) would bring an HCT line very near to the Old Sixth Ward Historical District near downtown, which could have positive and negative implications in terms of development and neighborhood impacts.
- Area residents and businesses have voiced concerns regarding Alignment D (particularly along the Washington Avenue segment).

Alignment "E" Considerations

The following considerations were noted when assigning ratings under each of the evaluation categories for Alignment E.

HCT Constructability (Alignment E)

Considerations in Assigning a Neutral Rating (**í**)

- Existing right of way along the 7th Street portion of Alignment E is already owned entirely by the Texas Department of Transportation (TxDOT) as noted previously for Alignments A, B and D.
- Some portions of Alignment E along Washington Avenue could possibly be shifted north several blocks to Allen Street to take advantage of greater space along the existing rail right of way and to avoid disruption of established local businesses along Washington (this consideration applies to Alignments B, C and D as well).
- Outside the downtown area, Alignment E crosses White Oak Bayou in two locations, which could require bridge construction or reconstruction that would involve potential floodplain and environmental issues. In general, Alignment E would likely be impacted by flooding concerns associated with White Oak Bayou. Flooding around Buffalo Bayou where this alignment (and Alignments B, C and D) would enter downtown was also noted.
- The intersection of Houston and Lubbock streets near downtown could pose an HCT design challenge given the limited space, existing street alignments and extent of vehicular traffic (this consideration applies to Alignments B, C and D as well).

HCT Operations Viability (Alignment E)

Considerations in Assigning an Unfavorable Rating (¢)

- Safe and efficient transit operations along Alignment E (as with Alignment D) would require a potentially costly and disruptive grade separation at the existing at-grade rail crossing on Shepherd/Durham between Washington Avenue and IH-10 (or possibly individual separations for both Shepherd and Durham). This existing freight rail line is heavily used and causes frequent traffic stoppages on Shepherd/Durham (as on T.C. Jester and Heights Boulevard). In addition, because the freight rail crossing of Alignment E is even closer to Washington Avenue than on Alignment D (T.C. Jester), a grade separation might be impractical at this location since the elevated portion must drop back down to the existing street elevation to also accommodate the turn of the HCT line to/from Washington Avenue.
- An existing high overpass on Shepherd/Durham carries the roadways over the rail corridor north of IH-10. Alignment E would presumably be tied into this same overpass to link the north-south portion of the HCT line along Shepherd/Durham to the east-west segment along the 7th Street corridor. This would require an extended ramp approach from the west to achieve the elevation of the existing high bridge while not sacrificing HCT operational speed on a steep slope. This consideration also raises constructability concerns regarding the need for, and the potential cost and impacts of, the extended approach.
- Alignment E involves two near 90-degree turns (at Washington and Shepherd/Durham and Shepherd/Durham and 7th) that could pose operational difficulties, including reduced speed. Existing development around these locations might offer little room to achieve a larger turning radius.
- The one-way portions of Shepherd and Durham north of Washington Avenue offer relatively wide rights of way, which would give this segment of Alignment E a potential operational advantage over narrower portions of other alignments in terms of HCT speeds that could be achieved. However, this positive consideration could be offset by potential operational concerns about two-way HCT on a one-way street (and heavily-traveled streets in Shepherd and Durham). A consideration for Alignment E is to split the two-way HCT operations to place a northbound line on Shepherd and a southbound line on Durham to match the direction of vehicular traffic on these one-way streets.

Development/Redevelopment Potential (Alignment E)

Considerations in Assigning a Favorable Rating (˜)

- Alignment E includes more of Washington Avenue than Alignment B, but less than D or C, which follows the entire length of Washington.

- Older industrial areas and sites that are along Alignment E offer redevelopment potential (e.g., Eureka Rail Yard area). However, Alignment E would not provide as direct access to the 6th-7th Street area or to other large parcels along Yale as does Alignment B.

Neighborhood & Business Compatibility (Alignment E)

Considerations in Assigning an Unfavorable Rating (¢)

- The need for a roadway-rail grade separation along the Shepherd/Durham portion of Alignment E (or possibly individual separations for both Shepherd and Durham), as noted under HCT Operations Viability, would impact adjacent private properties and likely spark significant neighborhood opposition. In addition, a grade separation over a rail line must be even higher than a roadway separation to provide adequate clearance for rail cars, increasing the physical and visual impact of an elevated grade separation at this location.
- Shepherd/Durham is the first major north-south thoroughfare inside Loop 610 that carries traffic all the way south across Buffalo Bayou to Westheimer, Richmond, the Southwest Freeway and points beyond. For this reason, an HCT line on Alignment E could disrupt existing traffic patterns and flow along these busy roadways through the heart of the Inner Katy area.
- The connection of the north-south portion of the HCT line along Shepherd/Durham to the east-west segment along the 7th Street corridor, particularly to achieve a workable turning radius, could cause disruption and/or loss of existing green space along White Oak Bayou in this vicinity, which might spark neighborhood opposition.
- Alignment E has the potential to cause greater disruption of smaller, single-location businesses given the nature of existing development along the Washington Avenue corridor, as well as the Shepherd/Durham corridors. This includes basic survival of businesses during the construction phase, plus long term business viability if access and/or parking are substantially affected.
- Alignment E (like B, C and D) would bring an HCT line very near to the Old Sixth Ward Historical District near downtown, which could have positive and negative implications in terms of development and neighborhood impacts.
- Area residents and businesses have voiced concerns regarding Alignment E (particularly along the Washington Avenue segment). Some involved in the alignments evaluation concluded that adverse community reaction would be greatest along Shepherd/Durham based on past experience (particularly involving METRO) and given the various small businesses fronting on these roadways.